Production of weaners with different levels of zinc oxide - A register based study from Denmark.

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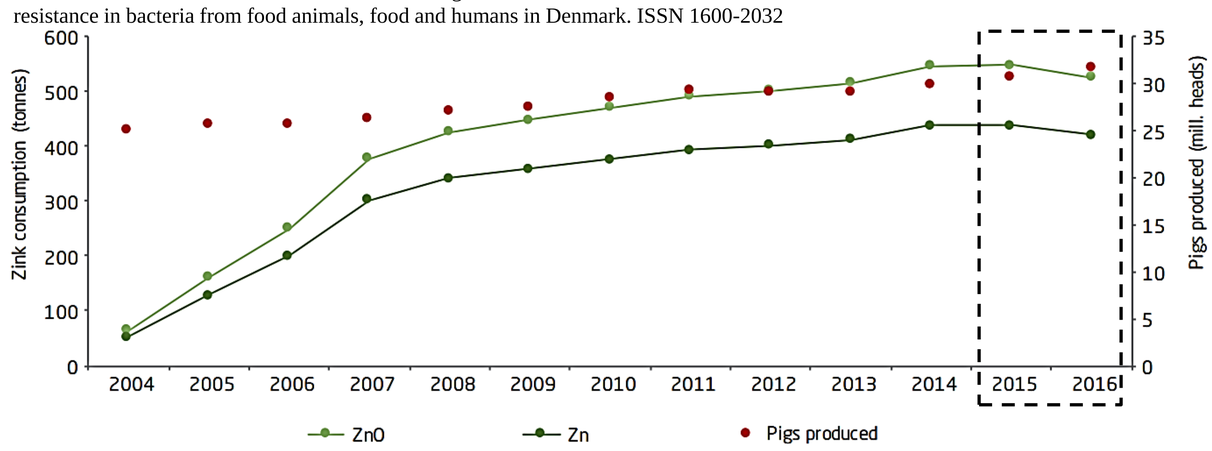
Objective

- Describe prescription patterns and herd characteristics of Danish weaner herds with use of different levels of zinc oxide

Figure 4.6 Consumption (tonnes) of zinc oxide (ZnO) and zinc (Zn) in the pig production, Denmark DANMAP 2016
Reference: DANMAP 2016 Use of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from food animals, food and humans in Denmark. ISSN 1600-2032



Materials: Data from 2015-2016

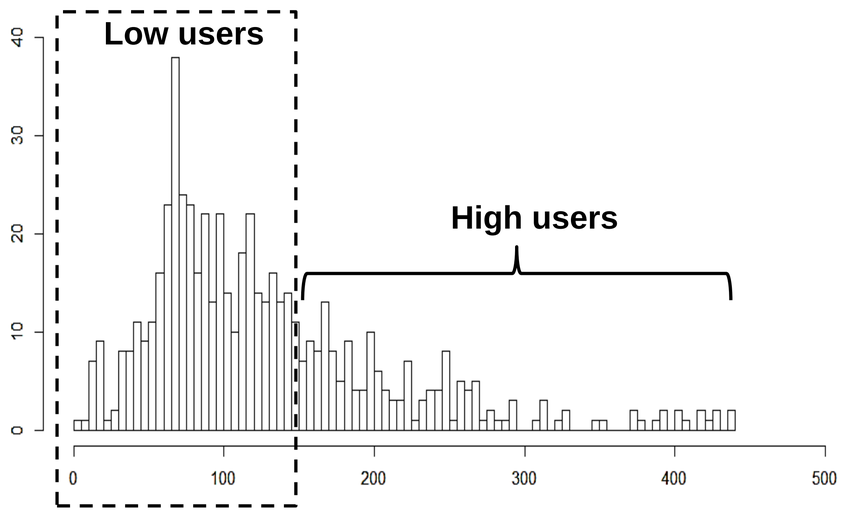
- Danish sow herds with more than 200 sows per year and minimum 200 weaner pen places
- Herd-level prescription of antimicrobials, vaccines and zinc oxide extracted from **VetStat**
- Information regarding herd type and number of animals extracted from **CHR**

VetStat: The Danish Veterinary Medicines Statistics Program covers sales of veterinary pre-scription medicine for all pig herds in Denmark

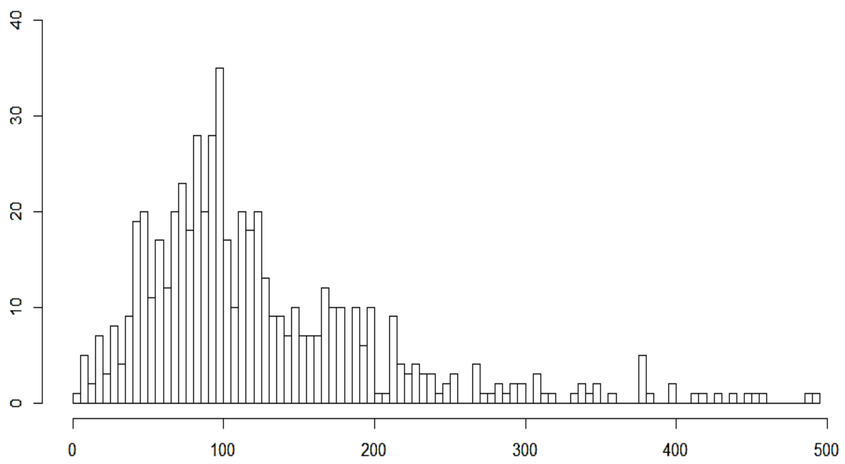
CHR: The Central Husbandry Register covers herd-level information about number of animals, type of herd and geographical location.

Method: Herds with high and low use of zinc oxide

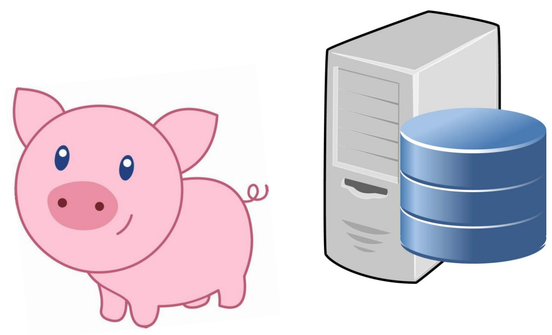
- Sow herds with weaners in 2015 and 2016 have different levels of zinc oxide:



2015



2016



Use of zinc oxide (gram ZnO per weaner pen place)

- Differences in antimicrobial use and zinc oxide between 2015 and 2016 were calculated for each herd
- Comparing two groups: Low users (N=410) and High users (N=160) in 2015

Preliminary results

- Herds with high use of zinc oxide were herds with more sows, but fewer weaners than herds with lower use of zinc oxide ($P<0.05$)
  - A **large decrease** in the use of zinc oxide between 2015 and 2016 were seen for herds with high use of zinc oxide
  - A **small increase** in the use of zinc oxide between 2015 and 2016 were seen for herds with lower use of zinc oxide
- Vaccines: Use of vaccine against ***Lawsonia intracellularis*** were related to a higher use of zinc oxide ($P=0.1$)
- The use of zinc oxide did not seem to be associated with the current **antimicrobial use** or change in antimicrobial use
  - However, important factors like feed and management were not taken into account in this study

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